

U.S. Patent Application Serial No. 09/892,457  
Response filed September 14, 2004  
Reply to OA dated March 16, 2004

### **REMARKS**

Claims 1, 2 and 4-9 are pending in this application. No amendment is made in this Response.

**Claims 1, 2 and 4-9 are rejected under 35 U.S.C. §102(b) as being anticipated by Gerber (U.S. Patent No. 5,294,649). (Office action paragraph no. 4)**

The rejection of claims 1, 2 and 4-9 is respectfully traversed, and reconsideration of the rejection is requested.

First of all, Applicant respectfully submits that the transitional phrase in claim 1, "consisting essentially of," distinguishes the present invention from the cited reference.

A resol-type phenol resin composition according to the present invention consists essentially of components (A) to (C), as recited in the claims. Unlike the accelerator disclosed in Gerber, the accelerator in the present invention, ammonium thiosulfate, is made out of a combination of **weak acid and weak base**; therefore, the composition of the present invention does not include any of a combination of strong acid and strong base, weak acid and strong base, and strong acid and weak base as disclosed in Gerber. In addition to this, Gerber does not teach nor even remotely suggest that such a combination of weak acid and weak base as in the present invention has a technical advantage. That is, the composition of the present invention has no adverse effect on other materials or substances with which the cured composition of the present invention is in contact. Applicant has stated this in the first paragraph in the Brief Summary of the Invention, on page 2 of the specification.

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A number of the combinations of anions and cations disclosed in Gerber are stable in the air. In contrast, ammonium thiosulfate as an accelerator of the present invention is unstable in air; therefore, ammonium thiosulfate is decomposed during a process of curing a composition. Accordingly, the cured articles made from the composition of the present invention have no adverse effects on the material with which the cured articles is in contact.

Secondly, Applicant respectfully responds to the Examiner's argument in the Response to Arguments in paragraph no. 9 of the Office action, regarding Applicant's argument that Gerber's listing of thiosulfate as one of 13 anions and listing of ammonium as one of a large list of cations does not provide anticipation of ammonium thiosulfate.

The Examiner cites MPEP 2131.02 in support of her position. In particular, she refers to *Ex Parte A* (see page 2100-72 of MPEP), which states that: "If one of skill in the art is able to 'at once envisage' the specific compound within the chemical formula, the compound is anticipated".

Applicant submits, however, that *Ex Parte A* actually argues **against** anticipation in this case. Applicant notes that 13 anions and a large list of cations are given in Gerber. It is possible that, **having selected** one of the cations and one of the anions, one might "envisage" the salt containing **that** cation and anion. However, the listing of so many cations and anions is a broad disclosure of very large number of permutations, **too large to be considered a specific disclosure of each corresponding salt**. MPEP 2131.02 also discusses *In re Petering* in this regard. In *In re Petering*, the disclosure of a general formula encompassing a **vast number of compounds** could not be

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considered to anticipate a particular compound consistent with the formula. A more limited generic class of about 20 compounds was considered to anticipate the compound.

In the present case, Gerber discloses 13 anions and a class of cations that is very large in itself. Seven cations are listed specifically (hydrogen, sodium, potassium, lithium, calcium, magnesium and ammonium), as well as the broad class of lower alkyl substituted ammonium compounds with 1-4 carbons, of which there are many. Applicant notes that the Examiner only counts 8 cations. However, by Applicant's count, there are at least eight lower alkyl groups in this definition (more if cycloalkyls are counted), and the substituted ammonium could have 1, 2, 3 or 4 of these groups. At the very least, by Applicant's count, this describes 4,680 substituted ammonium ions. Overall, by Applicant's estimate, the number of permutations of cations and anions in Gerber is at a minimum  $(13 \times 4687) = 60,931$ . The broad disclosure of 60,931 permutations clearly cannot lead one to "envision" the specific permutation of ammonium and thiosulfate, and the recitation of the present claim including ammonium thiosulfate cannot be considered to be anticipated. (Applicant further notes that Gerber specifically discloses 44 inorganic additives in the Examples, none of which is ammonium thiosulfate).

Applicant therefore asserts that claims 1, 2 and 4-9 are not anticipated by, and moreover are non-obvious over, Gerber.

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**Claims 1, 2 and 4-6 are rejected under 35 U.S.C. §103(a) as being unpatentable over Cooper (U.S. Patent No. 2,869,194) in view of Meyer (U.S. Patent No. 4,264,760).** (Office action paragraph no. 7)

The rejection of claims 1, 2 and 4-6 over Cooper and Meyer is respectfully traversed, and reconsideration of the rejection is respectfully requested.

The Examiner addresses Applicant's arguments from the Amendment of October 31, 2003, and now states that Meyer, taken as a whole, "teaches the use of sulfur containing compound including ammonium thiosulfate with formaldehyde containing resins wherein the formaldehyde containing resins include not only urea formaldehyde but also formaldehyde as presently claimed."

Most significantly, the Examiner also argues that the "consisting essentially of" phrase is construed as equivalent to "comprising".

In traversing the rejection, Applicant asserts that the meaning of "consisting essentially of" in the present claims is not the same as "comprising," and that this distinguishes the present claims from the cited references.

Applicant notes support for the "consisting essentially of" language on page 7, lines 7-9, of the present application:

**"The resol-type phenol resin composition of the present invention can be obtained, for example, by only mixing three components (A), (B) and (C)." (emphasis added)**

That is, the "consisting essentially of" recitation would be understood to refer to a composition which would exclude other purposely added components such as filler, and in which the only

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components other than (A), (B) and (C) would be adventitious components.

In the combination proposed by the Examiner, Cooper is cited for a resin comprising resol and magnesium oxide, and this is combined with Meyer's suggestion for ammonium salts of thiosulfates in curing formaldehyde resins. However, Cooper's composition is "an aqueous phenolic liquid resin in which is incorporated an inert filler material and ...a catalyst ...." (column 1, lines 45-54). Even if ammonium sulfate were added to Cooper's composition, there would still be a filler, and the proposed combination would not meet the limitation of "consisting essentially of" (A), (B) and (C), of present claim 1.

Applicant therefore submits that claims 1, 2 and 4-6 are non-obvious over Cooper and Meyer, taken separately or in combination.

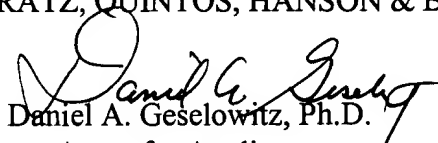
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If, for any reason, it is felt that this application is not now in condition for allowance, the Examiner is requested to contact Applicant's undersigned agent at the telephone number indicated below to arrange for an interview to expedite the disposition of this case.

In the event that this paper is not timely filed, Applicant respectfully petitions for an appropriate extension of time. Please charge any fees for such an extension of time and any other fees which may be due with respect to this paper, to Deposit Account No. 01-2340.

Respectfully submitted,

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